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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,715

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Fracois Touchard

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7590 03/17/2008
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EXAMINER

KOSACK, JOSEPH R

ART UNIT

PAPER NUMBER

1626

MAIL DATE

DELIVERY MODE

03/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/528,715	Applicant(s) TOUCHARD ET AL.	
	Examiner Joseph R. Kosack	Art Unit 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/22/2008</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 22-42 are pending in the instant application.

Information Disclosure Statement

The Information Disclosure Statement filed on January 22, 2008 has been considered by the Examiner.

Previous Claim Rejections - 35 USC § 103

Claims 22-42 rejected under 35 U.S.C. 103(a) as being unpatentable over Still et al. (*Tetrahedron Letters*, 1983, 4405-4408) in view of Heimann et al. (*Chemische Berichte*, 1979, 1392-1399).

Applicant's arguments have been considered, but were not found to be persuasive for the following reasons. The Federal Circuit decisions that Applicant has cited are not in line with the Supreme Court's decision in *KSR v. Teleflex* (82 USPQ2d 1385) in which a motivation to combine need not be explicitly stated in the references cited. The Examiner clearly pointed out why one of skill in the art would use the tris(polyoxaalkyl)amine in the Horner-Wadsworth-Emmons reaction in place of the 18-crown-6 ether and use it with a reasonable expectation of success. Additionally, how can there be an unexpected result that the use of a tris(polyoxaalkyl)amine has the same values as for 18-crown-6 ether when they are both potassium sequestering agents and Still et al. clearly state that diastereoselectivity increases as elimination is more favored which happens when one sequesters the potassium from the base and makes the base a stronger nucleophile? Hence, since tris(polyoxaalkyl)amine is a potassium sequestering agent as previously described, it would be obvious for

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one of skill in the art to use it instead of 18-crown-6 ether in the Horner-Wadsworth-Emmons reaction. The rejection is maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 22-42 rejected under 35 U.S.C. 103(a) as being unpatentable over Still et al. (*Tetrahedron Letters*, 1983, 4405-4408) in view of Heimann et al. (*Chemische Berichte*, 1979, 1392-1399).

The instant application is drawn essentially to an improved Horner-Wadsworth-Emmons process by replacing 18-crown-6 ether with a tris(polyoxaalkyl) amine as the sequestering agent. Dependent claims define preferred compounds and preferred reaction conditions, especially with KHMDS as base and THF or MTBE as solvent.

Determination of the scope and content of the prior art (MPEP §2141.01)

Still et al. teach the basic Horner-Wadsworth-Emmons reaction by reacting a phosphodiester with an aldehyde to yield a Z-alkene. The conditions include KHMDS as the base, THF as solvent, and 18-crown-6 ether as the sequestering agent. The reaction was also done at -78° C. See pages 4405-4406.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

Still et al. do not teach the substitution of tris(polyoxaalkyl) amine as the sequestering agent.

Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)

Heiman et al. teach that tris(polyoxaalkyl) amine can be used to sequester potassium ions. See Table 1 on page 1395. As Still et al. teach that the stereoselectivity of the reaction can be modified to raise Z selectivity by imposing conditions where elimination is faster than adduct equilibration. See page 4405.

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As a sequestering agent increases the activity of a base leading to faster rates of elimination, it would be obvious to substitute another known sequestering agent with a reasonable expectation of success. The motivation to do so is that tris(polyoxaalkyl) amines are cheaper to produce than crown ethers and are easier to obtain in large quantities.

Thus, the claimed invention as a whole was *prima facie* obviousness over the combined teachings of the prior art.

Conclusion

Claims 22-42 are rejected.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph R. Kosack whose telephone number is (571)272-5575. The examiner can normally be reached on M-Th 6:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on (571)-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kamal A Saeed, Ph.D./
Primary Examiner, Art Unit 1626

/Joseph R Kosack/
Examiner, Art Unit 1626